

ABSTRACT OF THE DISCLOSURE

5 The structure and function of a regulatory gene, *SCARECROW* (*SCR*), is described. The *SCR* gene is expressed specifically in root progenitor tissues of embryos, and in roots and stems of seedlings and plants. *SCR* expression controls cell division of certain cell types in roots and affects the organization of root and stem tissues, and affects gravitropism of aerial structures. The invention relates to the *SCR* gene, *SCR*-like genes, *SCR* gene products, (including but not limited to transcriptional products such as mRNAs, antisense, and ribozyme molecules, and translational products such the *SCR* protein, polypeptides, peptides and fusion proteins related thereto), antibodies to *SCR* gene products, *SCR* promoters and regulatory regions and the use of the foregoing to improve agronomically valuable plants.

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